



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Ramana V. Gollamudi

Title: METHOD AND APPARATUS FOR PROVIDING DISTRIBUTED
COMMUNICATION ROUTING

App. No.: 09/352,563

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Examiner: Qureshi, Afsar M.

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Technology Center 2600

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Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450**APPEAL BRIEF**

Dear Sir:

In response to the Notice of Appeal filed May 21, 2004, Appellant submits the following:

REAL PARTY IN INTEREST

As presently advised, Alcatel Canada Inc. is the real party in interest in this appeal by virtue of an executed Assignment of the entire interest from the named Inventor, Ramana V. Gollamudi, to Newbridge Networks Corporation recorded in the United States Patent and Trademark Office on 02/01/2000 at Reel 010548, Frame 0169, followed by a Change of Name from Newbridge Networks Corporation to Alcatel Networks Corporation dated May 25, 2000, and a Change of Name from Alcatel Networks Corporation to Alcatel Canada Inc. dated September 29, 2000. Appellant encloses copies of the above-referenced Assignment and Changes of Name.

RELATED APPEALS AND INTERFERENCES

As presently advised, there are no other prior or pending appeals, interferences, or judicial proceedings known to Appellant, the Appellant's legal representative, or Assignee which may be related to, directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-34 are pending in the present application. Claims 8-14 and 24-30 are allowed. Claims 17 and 33 are objected to. Claims 1-7, 15, 16, 18-23, 31, 32, and 34 are finally rejected, the rejection of which is being appealed.

STATUS OF AMENDMENTS

Appellant has not amended the specification, drawings, or claims subsequent to final rejection. However, Appellant filed a response to the final rejection without amendment, for which an advisory action that did not change the status of the claims was received.

SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 recites a method for providing distributed communication routing (as described, for example, on page 14, line 19, through page 15, line 9 and illustrated, for example, by Fig. 5), wherein the method comprises the steps of:

- a) obtaining registration information from a plurality of forwarding engines (as described, for example, on page 14, lines 20 and 21, of the specification and illustrated, for example, by step 90 of Fig. 5);
- b) identifying the plurality of forwarding engines based on the registration information (as described, for example, on page 14, lines 21-26, of the specification and illustrated, for example, by step 92 of Fig. 5);
- c) generating at least one specific forwarding table for at least one corresponding forwarding engine of the plurality of forwarding engines (as described, for example, on page 15, lines 1-5, of the specification and illustrated, for example, by step 94 of Fig. 5); and
- d) forwarding the at least one specific forwarding table to the at least one corresponding forwarding engine (as described, for example, on page 15, lines 6-9, of the specification and illustrated, for example, by step 96 of Fig. 5).

Independent claim 15 recites a method for providing distributing communication routing (as described, for example, on page 16, line 19, through page 17, line 3, and illustrated, for example, by Fig. 7), the method comprises the steps of:

- a) providing registration information (as described, for example, on page 16, lines 20 and 21, and illustrated, for example, by step 120 of Fig. 7);
- b) receiving at least one forwarding table in response to the registration information (as described, for example, on page 16, lines 21-27, and illustrated, for example, by step 122 of Fig. 7);
- c) receiving packets for routing (as described, for example, on page 17, line 1, and illustrated, for example, by step 124 of Fig. 7); and
- d) forwarding the packets based on information contained in the at least one forwarding table (as described, for example, on page 17, lines 2 and 3, and illustrated, for example, by step 124 of Fig. 7).

Independent claim 19 recites a distributed network routing element (as described, for example, on page 5, line 13, through page 6, line 2, and on page 14, line 19, through page 15, line 9 and illustrated, for example, by Figs. 1, 2, and 5) comprises:

a processing module (as described, for example, on page 5, lines 15-19, and illustrated, for example, by processing module 50 of Fig. 1); and

memory (as described, for example, on page 5, line 20, through page 6, line 2, and illustrated, for example, by memory 52 of Fig. 1) operably coupled to the processing module, wherein the memory stores operational instructions (as described, for example, on page 14, line 19, through page 15, line 9 and illustrated, for example, by Fig. 5) that cause the processing module to (a) obtain registration information from a plurality of forwarding engines (as described, for example, on page 14, lines 20 and 21, of the specification and illustrated, for example, by step 90 of Fig. 5); (b) identify the plurality of forwarding engines based on the registration information (as described, for example, on page 14, lines 21-26, of the specification and illustrated, for example, by step 92 of Fig. 5); (c) generate at least one specific forwarding table for at least one corresponding forwarding engine of the plurality of forwarding engines (as described, for example, on page 15, lines 1-5, of the specification and illustrated, for example, by step 94 of Fig. 5); and (d) forward the at least one specific forwarding table

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to the at least one corresponding forwarding engine (as described, for example, on page 15, lines 6-9, of the specification and illustrated, for example, by step 96 of Fig. 5).

Independent claim 31 recites a distributed network routing element (as described, for example, on page 6, lines 3-5, and on page 16, line 19, through page 17, line 3, and illustrated, for example, by Figs. 1, 2, and 7) comprises:

a processing module (as described, for example, on page 6, line 4, and illustrated, for example, by processing module 54 of Fig. 1); and

memory (as described, for example, on page 6, line 5, and illustrated, for example, by memory 56 of Fig. 1) operably coupled to the processing module, wherein the memory stores operational instructions (as described, for example, on page 16, line 19, through page 17, line 3, and illustrated, for example, by Fig. 7) that cause the processing module to (a) provide registration information (as described, for example, on page 16, lines 20 and 21, and illustrated, for example, by step 120 of Fig. 7); (b) receive at least one forwarding table in response to the registration information (as described, for example, on page 16, lines 21-27, and illustrated, for example, by step 122 of Fig. 7); (c) receive packets for routing (as described, for example, on page 17, line 1, and illustrated, for example, by step 124 of Fig. 7); and (d) forward the packets based on information contained in the at least one forwarding table (as described, for example, on page 17, lines 2 and 3, and illustrated, for example, by step 124 of Fig. 7).

In 69 F.R. 49960 at 49976, in the third column, lines 21-25, the following statement is set forth, “Whether the explanation is limited to a single drawing or embodiment or is extended to all drawings and embodiments is a decision appellant will need to make.” Accordingly, while Appellant has provided examples above with respect to particular drawings, it should be understood that, for at least some claims, disclosure found in other portions of the specification and/or drawings may be useful toward obtaining a full appreciation of the scope of such claims.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal are as follow:

Claims 1-4, 7, 15, 18, 19, 23, 31, and 34 stand rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,078,963, issued to Civanlar et al.;

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Claims 5, 6, 21, and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,078,963, issued to Civanlar et al. in view of U.S. Patent No. 6,374,303, issued to Armitage et al.; and

Claims 16, 20, and 32 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,078,963, issued to Civanlar et al. in view of U.S. Patent No. 5,905,723, issued to Varghese et al.

ARGUMENT

Allowability of claims 1-4, 7, 15, 18, 19, 23, 31, and 34 under 35 U.S.C. § 102 over U.S. Patent No. 6,078,963, issued to Civanlar et al.

MPEP § 2131 states, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Appellant submits that the cited portions of Civanlar et al. fail to disclose each and every element of the claimed invention as set forth in claims 1-4, 7, 15, 18, 19, 23, 31, and 34. For example, Appellant can find no evidence of "identifying the plurality of forwarding engines based on the registration information" in the cited portions of Civanlar et al. In fact, Appellant cannot find any assertion of Civanlar et al. teaching such step in paragraph 3 of the final Office action. While the Examiner asserts in the Response to Arguments of the final Office action, "...Civanlar clearly anticipate all the limitations claimed herein including plurality of forwarding engines 105...", Appellant notes that such an assertion, even if true, would fail to anticipate "identifying the plurality of forwarding engines based on the registration information."

As another example, Appellant can find no evidence of "generating at least one specific forwarding table for the at least one corresponding forwarding engine of the plurality of forwarding engines" in the cited portions of Civanlar et al. Rather, Civanlar et al. state in col. 3, lines 43-47, as cited by the Examiner, that "each forwarding engine 105 may be configured to forward new routing table configuration data received on one or more of the network interfaces 110 to every other intelligent router port 103 for updating each of the routing databases 104." Thus, the teachings of the cited portions of Civanlar et al. fail to disclose the limitations set forth in the claims, such as claim 1.

As another example, Appellant notes that claim 3 includes "...generating...a corresponding forwarding table for each of the plurality of forwarding engines." Appellant notes that the cited portions of Civanlar et al. appear to teach away from such a limitation.

As a further example, Appellant can find no specific assertion by the Examiner that Civanlar et al. teaches "a corresponding forwarding table for each grouping of the plurality of forwarding engines," as set forth in claim 4, nor any disclosure of such in the cited portions of Civanlar et al. Thus, Appellant submits that claim 4 is in condition for allowance.

As yet another example, Appellant reiterates the arguments set forth above regarding claim 1 with regard to the features of the memory of the distributed network routing element set forth in claim 19. Thus, Appellant submits that claim 19 is in condition for allowance.

While the Examiner states that the routing engine 107 and the routing database 104 provide information to the forwarding engine 105 which is implied to be the device that transmits and receives to other router ports and external to the router, citing col. 3, lines 28-30, Appellant submits that Civanlar et al. actually teaches away from such operation. Immediately following the cited portion, in col. 3, lines 30-33, Civanlar et al. state, "Each intelligent router port 103 may be configured to independently generate its own routing tables without the need for a central routing engine and/or master routing table."

Moreover, while the Examiner states that the forwarding engine is said to forward routing table information that is received by the router ports to other ports for updating each port with routing information, citing col. 3, lines 43-47, Appellant submits that Civanlar et al. actually teach away from the present invention as set forth in claims 1-4, 7, 15, 18, 19, 23, 31, and 34. For example, with respect to claims 1-4 and 7 and the features of the memory of claims 19 and 23, Appellant submits that the cited portions of Civanlar et al. fail to teach aspects such as a) obtaining registration information from a plurality of forwarding engines, b) identifying the plurality of forwarding engines based on the registration information, and c) generating at least one specific forwarding table for at least one corresponding forwarding engine of the plurality of forwarding engines. For example, besides the clear lack of teaching regarding the aspects denoted a) and b), Appellant submits that Civanlar et al. further lack teaching regarding the aspects denoted c) and d) in that the mere forwarding of configuration data to every other intelligent router port 103 does not disclose the limitations set forth in the aspects denoted c) and d). As another example, with respect to claims 15 and 18 and the features

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of the memory of claims 31 and 34, Appellant submits that the cited portions of Civanlar et al. fail to teach aspects such as a) providing registration information and b) receiving at least one forwarding table in response to the registration information.

Thus, Appellant submits that Civanlar et al. fail to anticipate the claimed invention as set forth in claims 1-4, 7, 15, 18, 19, 23, 31, and 34. Therefore, Appellant submits that claims 1-4, 7, 15, 18, 19, 23, 31, and 34 are in condition for allowance.

Allowability of claims 5, 6, 21, and 22 under 35 U.S.C. § 103 over U.S. Patent No. 6,078,963, issued to Civanlar et al. in view of U.S. Patent No. 6,374,303, issued to Armitage et al.

MPEP § 2141 states, “Office policy is to follow *Graham v. John Deere Co.* in the consideration and determination of obviousness under 35 U.S.C. 103. As quoted above, the four factual inquiries enunciated therein as a background for determining obviousness are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

Appellant alleges several deficiencies in the application of the above factual inquiries to the examination of the present application. As noted above with respect to the Examiner’s assertions in the § 102 rejection, Appellant submits that the alleged scope and contents of the alleged prior art have not been accurately been determined by the Examiner. Consequently, Appellant submits that the alleged differences between the alleged prior art and the claims in issue have not been accurately ascertained. Moreover, Appellant submits that nowhere does the Examiner appear to expressly resolve the level of ordinary skill in the pertinent art, but merely alleges teachings of the cited references and concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine such alleged teachings of the cited references. Furthermore, while Appellant has alleged secondary considerations, such as the apparent “teaching away” of the cited references, Appellant submits that the Examiner has not expressly alleged having evaluated such secondary considerations. As noted in MPEP § 2141.02, “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L.*

Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).” As noted both above and below, Appellant submits that portions of the cited references appear to “teach away” from the claimed invention as set forth in several claims. Thus, Appellant further submits that it would not have been obvious to one of ordinary skill at the time of the invention to combine the cited references so as to allegedly yield the claimed invention.

MPEP § 2142 states, “[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

“The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. ‘To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.’ *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).”

MPEP § 2143.01 states, “[t]here are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.’ *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

“In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution,

combination, or other modification.’ *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).”

“Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).”

Appellant reiterates the arguments set forth above regarding the failure of Civanlar et al. to anticipate the claims from which claims 5, 6, 21, and 22 depend. Moreover, the supposed acknowledgement process of Armitage et al. (col. 3, lines 60-67) cited by the Examiner does not appear to teach verifying “receipt of the at least one specific forwarding table by the at least one corresponding forwarding engine,” as set forth in claims 6 and 22. Rather, the cited portion of Armitage et al. merely refers to acknowledging “an explicit teardown.”

Appellant notes that Armitage et al. state, in col. 7, lines 56-59, as cited by the Examiner, “The Authentication MEE is used to validate that a neighboring router sending messages defining label switched paths is legitimate in order to protect the network from unauthorized equipment.” However, Appellant submits that merely validating that a neighboring router is legitimate does not anticipate or render obvious “verifying receipt of the at least one specific forwarding table by the at least one corresponding forwarding engine.” Therefore, Appellant submits that it would not have been obvious to one of ordinary skill in the art to combine the cited references as asserted by the Examiner.

For the foregoing reasons, Appellant submits that the cited references, either alone or in combination, fail to anticipate or render obvious the claimed invention as set forth in claims 5, 6, 21, and 22. Thus, Appellant submits that claims 5, 6, 21, and 22 are also in condition for allowance.

Allowability of claims 16, 20, and 32 under 35 U.S.C. § 103 over U.S. Patent No. 6,078,963, issued to Civanlar et al. in view of U.S. Patent No. 5,905,723, issued to Varghese et al.

Appellant has presented reasons above as to why Civanlar et al. fail to disclose the claimed invention as set forth in claims from which claims 16, 20, and 32 depend. Moreover, Appellant submits that Varghese et al. fail to disclose teachings that would suggest the claimed invention as set forth in claims 16, 20, and 32 even if an attempt were made to combine such teachings with the teachings of Civanlar et al. Therefore, Appellant submits that even the attempted combination of the Civanlar et al. and Varghese et al. references fails to meet the requirement that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” For example, col. 2, lines 28-37, of Varghese et al., as cited by the Examiner, state, “...packets are transferred from one router port to another router port. The forwarding engine for any given port forwards the received packet to another router port over the backplane bus if either the receiving port and the destination port are not members of a same group. The determining means includes a table that identifies all ports which are member of the group and it uses that table to determine whether the receiving port and the destination port are members of the same group.” However, Appellant submits that such teaching fails to disclose “...at least one of: a corresponding specific forwarding table for each forwarding engine of a plurality of forwarding engines of a distributed router, a corresponding specific forwarding table for each grouping of the plurality of forwarding engines, and a single forwarding table for the plurality of forwarding engines.” Rather, as Varghese et al. state in col. 4, lines 23-29, “If they do belong to the same group (i.e., the packet is being sent back to the switch from where it came), then forwarding engine 20 simply sends the packet back through the port through which it was received thereby avoiding the slower backplane bus 15. If the do not belong to the same group, forwarding engine 20 sends the packet to the backplane bus for forwarding to the destination port.” Therefore, Appellant submits that Varghese et al. teach away from the claimed invention as set forth in claims 16, 20, and 32. Moreover, Appellant submits can find no disclosure in Varghese et al. as to what the “determining means” that Varghese et al. mention in col. 2, line 32, might be or how it might relate to the system disclosed in Varghese et al. Therefore, Appellant submits that Varghese et al. lack enabling disclosure. Therefore, Appellant submits that, even if an attempt were made to combine the teachings of Varghese et al. with those of Civanlar et al., the claimed invention as set forth in claims 16, 20, and 32 would not be rendered obvious. Thus, Appellant submits that claims 16, 20, and 32 are in condition for allowance.

Allowability of objected claims 17 and 33 based on allowability of claims from which they depend.

The Examiner has objected to claims 17 and 33 as being dependent upon a rejected base claim, but states that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Appellant submits that, in view of Appellant's arguments for the allowability of base claims from which the objected claims depend, claims 17 and 33 are now in condition for allowance.

CLAIMS APPENDIX

1. (Original – finally rejected) A method for providing distributed communication routing, the method comprises the steps of:
 - a) obtaining registration information from a plurality of forwarding engines;
 - b) identifying the plurality of forwarding engines based on the registration information;
 - c) generating at least one specific forwarding table for at least one corresponding forwarding engine of the plurality of forwarding engines; and
 - d) forwarding the at least one specific forwarding table to the at least one corresponding forwarding engine.
2. (Original – finally rejected) The method of claim 1, wherein step c) further comprises generating, as the at least one specific forwarding table, one forwarding table for the plurality of forwarding engines.
3. (Original – finally rejected) The method of claim 1, wherein step c) further comprises generating, as the at least one specific forwarding table, a corresponding forwarding table for each of the plurality of forwarding engines.
4. (Original – finally rejected) The method of claim 1, wherein step c) further comprises generating, as the at least one specific forwarding table, a corresponding forwarding table for each grouping of the plurality of forwarding engines.
5. (Original – finally rejected) The method of claim 1, wherein step (b) further comprises authenticating each of the plurality of forwarding engines prior to the identifying.
6. (Original – finally rejected) The method of claim 1 further comprises verifying receipt of the at least one specific forwarding table by the at least one corresponding forwarding engine.
7. (Original – finally rejected) The method of claim 1 further comprises updating the at least one specific forwarding table based on configuration changes of a network.

8. (Original – allowed) A method for providing distributed communication routing, the method comprises the steps of:
- a) obtaining registration information from a plurality of forwarding engines;
 - b) identifying the plurality of forwarding engines based on the registration information;
 - c) determining internal routing connections and external routing connections for the plurality of forwarding engines;
 - d) generating at least one external forwarding table for at least some of the plurality of forwarding engines;
 - e) generating at least one specific internal forwarding table for at least one corresponding forwarding engine of the plurality of forwarding engines; and
 - f) forwarding the at least one specific internal forwarding table and the at least one external forwarding table to the at least one corresponding forwarding engine.
9. (Original – allowed) The method of claim 8, wherein step (d) further comprises generating, as the at least one external forwarding table, a single external forwarding table for the plurality of forwarding engines.
10. (Original – allowed) The method of claim 8, wherein step (d) further comprises generating, as the at least one external forwarding table, a corresponding external forwarding table for each grouping of the plurality of forwarding engines.
11. (Original – allowed) The method of claim 8, wherein step (e) further comprises generating, as the at least one specific internal forwarding table, at least one of: a single internal forwarding table for the plurality of forwarding engines, a corresponding internal forwarding table for each of the plurality of forwarding engines, and a corresponding internal forwarding table for each grouping of the plurality of forwarding engines.
12. (Original – allowed) The method of claim 8 further comprises updating at least one of the at least one specific internal forwarding table and the at least one external forwarding table based on configuration changes of a network.
13. (Original – allowed) The method of claim 8 further comprises:
identifying a second plurality of forwarding engines based on the registration information;

determining second internal routing connections and second external routing connections for the second plurality of forwarding engines;

generating at least one second external forwarding table for at least some of the second plurality of forwarding engines;

generating at least one second specific internal forwarding table for at least one second corresponding forwarding engine of the second plurality of forwarding engines; and

forwarding the at least one second specific internal forwarding table and the at least one second external forwarding table to the at least one second corresponding forwarding engine.

14. (Original – allowed) The method of claim 13 further comprises multiplexing forwarding of the at least one specific internal forwarding table and the at least one second specific internal forwarding table and of the at least one external forwarding table and the at least one second external forwarding table to the at least one and the at least one second forwarding engines wherein the at least one and the at least one second forwarding engines share a connection.

15. (Original – finally rejected) A method for providing distributing communication routing, the method comprises the steps of:

- a) providing registration information;
- b) receiving at least one forwarding table in response to the registration information;
- c) receiving packets for routing; and
- d) forwarding the packets based on information contained in the at least one forwarding table.

16. (Original – finally rejected) The method of claim 15, wherein the at least one forwarding table comprises at least one of: a corresponding specific forwarding table for each forwarding engine of a plurality of forwarding engines of a distributed router, a corresponding specific forwarding table for each grouping of the plurality of forwarding engines, and a single forwarding table for the plurality of forwarding engines.

17. (Original – objected) The method of claim 15, wherein the at least one forwarding table comprises an internal forwarding table and an external forwarding table.

18. (Original – finally rejected) The method of claim 15 further comprises updating the at least one forwarding table based on update information (new table or the updated portions only), wherein the update information corresponds to configuration changes within a network.

19. (Original – finally rejected) A distributed network routing element comprises:
a processing module; and
memory operably coupled to the processing module, wherein the memory stores operational instructions that cause the processing module to (a) obtain registration information from a plurality of forwarding engines; (b) identify the plurality of forwarding engines based on the registration information; (c) generate at least one specific forwarding table for at least one corresponding forwarding engine of the plurality of forwarding engines; and (d) forward the at least one specific forwarding table to the at least one corresponding forwarding engine.
20. (Original – finally rejected) The distributed network routing element of claim 19, wherein the memory further comprises operational instructions that cause the processing module to generate, as the at least one specific forwarding table, at least one of: one forwarding table for the plurality of forwarding engines; a corresponding forwarding table for each of the plurality of forwarding engines; a corresponding forwarding table for each grouping of the plurality of forwarding engines.
21. (Original – finally rejected) The distributed network routing element of claim 19, wherein the memory further comprises operational instructions that cause the processing module to authenticate each of the plurality of forwarding engines prior to the identifying.
22. (Original – finally rejected) The distributed network routing element of claim 19, wherein the memory further comprises operational instructions that cause the processing module to verify receipt of the at least one specific forwarding table by the at least one corresponding forwarding engine.
23. (Original – finally rejected) The distributed network routing element of claim 19, wherein the memory further comprises operational instructions that cause the processing module to update the at least one specific forwarding table based on configuration changes of a network.

24. (Original – allowed) A distributed network routing element comprises:

a processing module; and

memory operably coupled to the processing module, wherein the memory stores operational instructions that cause the processing module to (a) obtain registration information from a plurality of forwarding engines; (b) identify the plurality of forwarding engines based on the registration information; (c) determine internal routing connections and external routing connections for the plurality of forwarding engines; (d) generate at least one external forwarding table for at least some of the plurality of forwarding engines; (e) generate at least one specific internal forwarding table for at least one corresponding forwarding engine of the plurality of forwarding engines; and (f) forward the at least one specific internal forwarding table and the at least one external forwarding table to the at least one corresponding forwarding engine.

25. (Original – allowed) The distributed network routing element of claim 24, wherein the memory further comprises operational instructions that cause the processing module to generate, as the at least one external forwarding table, a single external forwarding table for the plurality of forwarding engines.

26. (Original – allowed) The distributed network routing element of claim 24, wherein the memory further comprises operational instructions that cause the processing module to generate, as the at least one external forwarding table, a corresponding external forwarding table for each grouping of the plurality of forwarding engines.

27. (Original – allowed) The distributed network routing element of claim 24, wherein the memory further comprises operational instructions that cause the processing module to generate, as the at least one specific internal forwarding table, at least one of: a single internal forwarding table for the plurality of forwarding engines, a corresponding internal forwarding table for each of the plurality of forwarding engines, and a corresponding internal forwarding table for each grouping of the plurality of forwarding engines.

28. (Original – allowed) The distributed network routing element of claim 24, wherein the memory further comprises operational instructions that cause the processing module to update at least one of the at least one specific internal forwarding table and the at least one external forwarding table based on configuration changes of a network.

29. (Original – allowed) The distributed network routing element of claim 24, wherein the memory further comprises operational instructions that cause the processing module to: identify a second plurality of forwarding engines based on the registration information; determine second internal routing connections and second external routing connections for the second plurality of forwarding engines; generate at least one second external forwarding table for at least some of the second plurality of forwarding engines; generate at least one second specific internal forwarding table for at least one second corresponding forwarding engine of the second plurality of forwarding engines; and forward the at least one second specific internal forwarding table and the at least one second external forwarding table to the at least one second corresponding forwarding engine.

30. (Original – allowed) The distributed network routing element of claim 24, wherein the memory further comprises operational instructions that cause the processing module to multiplex forwarding of the at least one specific internal forwarding table and the at least one second specific internal forwarding table and of the at least one external forwarding table and the at least one second external forwarding table to the at least one and the at least one second forwarding engines wherein the at least one and the at least one second forwarding engines share a connection.

31. (Original – finally rejected) A distributed network routing element comprises:
a processing module; and
memory operably coupled to the processing module, wherein the memory stores operational instructions that cause the processing module to (a) provide registration information; (b) receive at least one forwarding table in response to the registration information; (c) receive packets for routing; and (d) forward the packets based on information contained in the at least one forwarding table.
32. (Original – finally rejected) The distributed network routing element of claim 31, wherein the at least one forwarding table comprises at least one of: a corresponding specific forwarding table for each forwarding engine of a plurality of forwarding engines of a distributed router, a corresponding specific forwarding table for each grouping of the plurality of forwarding engines, and a single forwarding table for the plurality of forwarding engines.
33. (Original – objected) The distributed network routing element of claim 31, wherein the at least one forwarding table further comprises an internal forwarding table and an external forwarding table.
34. (Original – finally rejected) The distributed network routing element of claim 31, wherein the memory further comprises operational instructions that cause the processing module to update the at least one forwarding table based on update information (new table or the updated portions only), wherein the update information corresponds to configuration changes within a network.

EVIDENCE APPENDIX


As presently advised, no evidence was submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132. In the Notice of References Cited (Form PTO-892) included with the Office action mailed 07/17/2002, the Examiner cited U.S. Patent No. 6,370,142, issued to Pitcher, U.S. Patent No. 5,430,727, issued to Callon, U.S. Patent No. 5,509,123, issued to Dobbins, and U.S. Patent No. 5,951,649, issued to Dobbins. In the Notice of References Cited (Form PTO-892) included with the Office action mailed 04/10/2003, the Examiner further cited U.S. Patent No. 6,081,512, issued to Muller et al., U.S. Patent No. 6,363,053, issued to Schuster et al., U.S. Patent No. 6,487,170, issued to Chen et al., U.S. Patent No. 6,374,303, issued to Armitage et al., U.S. Patent No. 6,078,963, issued to Civanlar et al., and U.S. Patent No. 5,905,723, issued to Varghese et al. As the Examiner relied upon the following evidence in support of final rejection, Appellant relies upon such evidence in the appeal: U.S. Patent No. 6,078,963, issued to Civanlar et al., U.S. Patent No. 6,374,303, issued to Armitage et al., and U.S. Patent No. 5,905,723, issued to Varghese et al., copies of which are provided below.

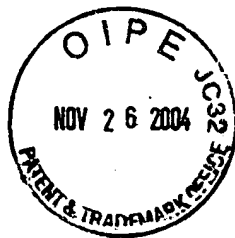
RELATED PROCEEDINGS APPENDIX

As stated above, as presently advised, there are no other prior or pending appeals, interferences, or judicial proceedings known to Appellant, the Appellant's legal representative, or Assignee which may be related to, directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal. Thus, no copies of decisions rendered by a court or by the Board are provided.

Respectfully submitted,

11/22/2004 Date


Ross D. Snyder, Reg. No. 37,730
Attorney for Appellant(s)
Ross D. Snyder & Associates, Inc.
115 Wild Basin Road, Suite 107
Austin, Texas 78746
(512) 347-9223 (phone)
(512) 347-9224 (fax)



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DECEMBER 28, 1999

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MARKISON & RECKAMP, P.C.
PAUL M. ANDERSON
175 WEST JACKSON BLVD.
SUITE 1015
CHICAGO, IL 60604



101164629A

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**UNITED STATES PATENT AND TRADEMARK OFFICE
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SEND DOCUMENTS TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231. IF YOU HAVE ANY QUESTIONS REGARDING THIS NOTICE, YOU MAY CONTACT THE INDIVIDUAL WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723.

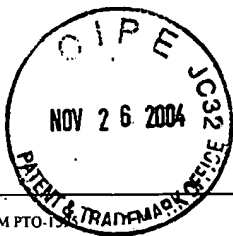
1. THE COVER SHEET SUBMITTED FOR RECORDING DOES NOT ADEQUATELY IDENTIFY THE PROPERTY NUMBER(S). THE APPLICATION NUMBER AND SERIES CODE OR THE SERIAL NUMBER AND FILING DATE IS REQUIRED.

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U.S. Department of Commerce

OMB No. 0651-0011 (exp. 4/94)

101164629

Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original document or copy thereof.

1. Name of conveying party(ies):

Ramana V. Gollamudi

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:



Assignment



Merger



Security Agreement



Change of Name



Other

Execution Date: 9/15/99

2. Name and address of receiving party(ies):

Newbridge Networks, Corp.

600 March Road

Kanata, Ontario

Canada K2K 2E6

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or registration number(s): ; Attorney Docket No: 1400.4100210

If this document is being filed together with a new application, the execution date of the application is: 9/15/99

A. Patent Application No.(s):

B. Patent No.(s):

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Paul M. Anderson

Markison & Reckamp, P.C.

175 West Jackson Boulevard - Suite 1015

City: Chicago

State: Illinois

Zip: 60604

6. Total number of applications and patents involved: 1

7. Total fee (37 C.F.R. 3.41)----- \$ 40.00



Enclosed

Authorized to be charged to deposit account
if check insufficient or inadvertently omitted

8. Deposit account number: 50-0746

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Paul M. Anderson

9/20/99

Name of Person Signing, Reg. No. 39,896

Signature

Date

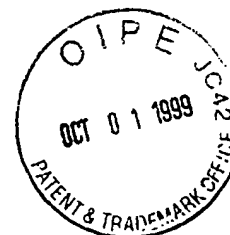
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Mail documents to be recorded with required cover sheet information to:
Commissioner of Patents and Trademarks, Office of Public Records,
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OCT 1 1999 095352563

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PATENT APPLICATION

ASSIGNMENT OF U.S. PATENT APPLICATION

This is an assignment of patent rights between the inventor(s) Ramana V. Gollamudi (herein after referred to as the Inventor) and NEWBRIDGE NETWORKS CORPORATION. having a place of business at 600 March Road, Kanata, Ontario, Canada K2K 2E6 (herein after referred to as the Assignee).

WHEREAS, Inventor has caused to be prepared a United States Patent Application in the Inventor's name entitled METHOD AND APPARATUS FOR PROVIDING DISTRIBUTED COMMUNICATION ROUTING having a docket number of 1400.4100210 (herein after referred to as the Patented Invention); and

WHEREAS, Assignee has a desire to acquire all rights, title, and interest in the Patented Invention.

NOW, THEREFORE, the parties agree as follows:


1. The Inventor hereby sells, assigns, and transfers its entire rights, title, and interest in the Patented Invention and all patents that may be granted therefrom due to divisions, reissue, substitutions, extensions, continuations, and continuations-in-part to the Assignee.
2. The Inventor hereby sells, assigns, and transfers its entire rights, title, and interest in any foreign (non U.S.) national patent application, invention registration, or equivalent (Foreign Applications), claiming approximately the same subject matter of the Patented Invention to the Assignee.
3. In consideration for the sum of one dollar (\$1) U.S. (or its equivalent) and other consideration for which both parties acknowledge to be valuable, having been conveyed to the Inventor by the Assignee for the sale, assignment, and transfer of the Patented Invention and Foreign Applications. Consideration may include at least one of: employment, an independent contractor agreement, monetary payment, or other benefit hereby acknowledged as received.
4. Inventor hereby authorizes and requests the Commissioner of Patents and Trademarks to issue the patent for the Patented Invention, and all resulting patents therefrom, insofar as Inventor's interest is concerned, to the Assignee.
5. The Inventor further agrees to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such rights, title, and interest in the Assignee.

COPY

6. The Inventor hereby further agrees to communicate with the Assignee any facts its knows regarding any improvements of the Patented Invention while employed by Assignee and for one year thereafter.
7. The Inventor hereby yet further agrees to, at the expense of the Assignee:
- i) testify in any legal proceedings,
 - ii) sign all lawful papers,
 - iii) execute all divisional, continuation, continuation-in-part, reissue and substitute applications,
 - iv) make all lawful oaths, and assist in vesting title in the Assignee and to aid the Assignee to obtain and enforce proper protection for the subject matter of the Patented Invention in all countries, and
 - v) notify Assignee promptly (by facsimile or first class mail) of any subpoena or contact by any person other than Assignee or its agents regarding the Application or resultant patent(s) issuing therefrom, and in any event at least one week prior to any deposition, legal inquiry or legal proceeding relating to the above identified invention.

This assignment is executed on the date(s) of which the Inventor has signed.

Inventor:



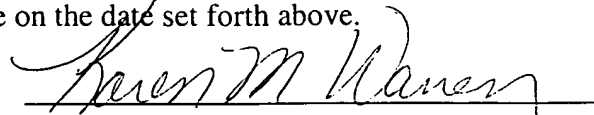
Ramana V. Gollamudi

Sept 15, 99

Date:

STATEMENT OF WITNESS

I, Karen M Warren, whose full post office address is
16709 Hamilton Station Rd
Hamilton VA 20158, state that I was personally present and did see Ramana V. Gollamudi, who is personally known to me to be the person named in the above assignment, duly sign and execute the same on the date set forth above.



(Signature of Witness)

PROVINCE OF ONTARIO


TO WIT:

COPY

I, ALEX J. KILGOUR, of the City of Ottawa, in the Province of Ontario, a notary public in and for the Province of Ontario by royal authority duly appointed, do certify that the document hereto annexed is a true photostatic copy of the document produced and shown to me and purporting to be the Certificate of Amendment for Alcatel Networks Corporation Societe Par Actions De Regime Federal De Reseaux Alcatel dated May 25, 2000 issued under the *Canada Business Corporations Act*, the said copy has been compared by me with the said original document, an act whereof being requested I have granted the same under my notarial form and seal of office to serve and avail as occasion shall or may require.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my notarial seal at the City of Ottawa, this 12th day of July, 2000.




A Notary Public in and for the Province
of Ontario

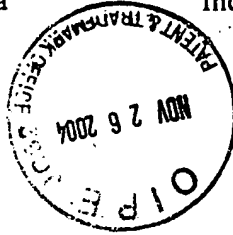


Industry Canada

Industrie Canada

**Certificate
of Amendment**

**Canada Business
Corporations Act**



**Certificat
de Modification**

**Loi canadienne sur
les sociétés par actions**

COPY

Alcatel Networks Corporation

Societe Par Actions De Regime Federal De Reseaux Alcatel

376374-9

Name of corporation-Dénomination de la société

Corporation number-Numéro de la société

I hereby certify that the articles of the
above-named corporation were amended:

Je certifie que les statuts de la société
susmentionnée ont été modifiés:

- a) under section 13 of the *Canada Business Corporations Act* in accordance with the attached notice;
- b) under section 27 of the *Canada Business Corporations Act* as set out in the attached articles of amendment designating a series of shares;
- c) under section 179 of the *Canada Business Corporations Act* as set out in the attached articles of amendment;
- d) under section 191 of the *Canada Business Corporations Act* as set out in the attached articles of reorganization;

- ☐ a) en vertu de l'article 13 de la *Loi canadienne sur les sociétés par actions*, conformément à l'avis ci-joint;
- ☐ b) en vertu de l'article 27 de la *Loi canadienne sur les sociétés par actions*, tel qu'il est indiqué dans les clauses modificatrices ci-jointes désignant une série d'actions;
- ☒ c) en vertu de l'article 179 de la *Loi canadienne sur les sociétés par actions*, tel qu'il est indiqué dans les clauses modificatrices ci-jointes;
- ☐ d) en vertu de l'article 191 de la *Loi canadienne sur les sociétés par actions*, tel qu'il est indiqué dans les clauses de réorganisation ci-jointes;

Director - Directeur

May 25, 2000 / le 25 mai 2000

Date of Amendment - Date de modification

Canada



CANADA BUSINESS CORPORATIONS ACT

FORM 4

ARTICLES OF AMENDMENT
(SECTION 27 OR 177)

COPY

1. Name of Corporation:

NEWBRIDGE NETWORKS CORPORATION

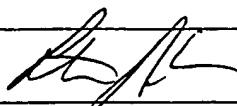
SOCIETE PAR ACTIONS DE REGIME FEDERAL
DE RESEAUX NEWBRIDGE

2. Corporation No.:

376 374-9

3. The articles of the above-named corporation are amended as follows:

To change the name of the Corporation to Alcatel Networks Corporation Societe Par Actions De Regime
Federal De Reseaux Alcatel.

Date: May 25, 2000	Signature: 	Title: Corporate Secretary
FOR DEPARTMENT USE ONLY: FILED: MAY 25 2000		




COPY

PROVINCE OF ONTARIO)
)
REGIONAL MUNICIPALITY)
)
OF OTTAWA-CARLETON)
)
TO WIT:)

I, DOUGLAS MICHAEL GILL STEWART, a Notary Public in and for the Province of Ontario, by Royal Authority duly appointed, residing in the City of Ottawa, in the Regional Municipality of Ottawa-Carleton, in the said Province, DO HEREBY CERTIFY that the paper writing hereto annexed is a true copy of the Certificate of Amendment for ALCATEL CANADA INC. issued by Industry Canada on September 29, 2000, and I have granted the same under my Notarial Form and Seal of Office to serve and avail as occasion shall or may require.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my Notarial Seal at the City of Kanata this 12th day of October, 2000.



A Notary Public in and for the
Province of Ontario



Industry Canada

Industrie Canada

COPY

**Certificate
of Amendment**

**Canada Business
Corporations Act**

**Certificat
de modification**

**Loi canadienne sur
les sociétés par actions**

Alcatel Canada Inc.

376374-9

Name of corporation-Dénomination de la société

Corporation number-Numéro de la société

I hereby certify that the articles of the
above-named corporation were amended:

Je certifie que les statuts de la société
susmentionnée ont été modifiés:

a) under section 13 of the *Canada
Business Corporations Act* in
accordance with the attached notice;



a) en vertu de l'article 13 de la *Loi
canadienne sur les sociétés par
actions*, conformément à l'avis ci-joint;

b) under section 27 of the *Canada
Business Corporations Act* as set out in
the attached articles of amendment
designating a series of shares;



b) en vertu de l'article 27 de la *Loi
canadienne sur les sociétés par
actions*, tel qu'il est indiqué dans les
clauses modificatrices ci-jointes
désignant une série d'actions;

c) under section 179 of the *Canada
Business Corporations Act* as set out in
the attached articles of amendment;



c) en vertu de l'article 179 de la *Loi
canadienne sur les sociétés par
actions*, tel qu'il est indiqué dans les
clauses modificatrices ci-jointes;

d) under section 191 of the *Canada
Business Corporations Act* as set out in
the attached articles of reorganization;



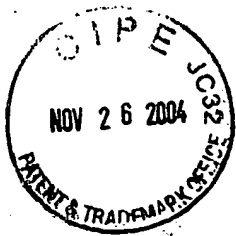
d) en vertu de l'article 191 de la *Loi
canadienne sur les sociétés par
actions*, tel qu'il est indiqué dans les
clauses de réorganisation ci-jointes;

Director - Directeur

September 29, 2000 / le 29 septembre 2000

Date of Amendment - Date de modification

Canada



CANADA BUSINESS CORPORATIONS ACT
FORM 4
ARTICLES OF AMENDMENT
(SECTION 27 OR 177)

COPY

1. Name of Corporation: 2. Corporation No.:

Alcatel Networks Corporation
Societe Par Actions De Regime Federal
De Reseaux Alcatel

376374-9

3. The articles of the above-named corporation are amended as follows:

To change the name of the Corporation to Alcatel Canada Inc. effective at 11:25 p.m. on the date shown on the Certificate of Amendment effecting this amendment.

Date: September 24 th , 2000	Signature: <i>Donna Hice</i>	Title: <i>Assistant Secretary</i>
		FOR DEPARTMENT USE ONLY: FILED: OCT 02 2000